

### **AMENDMENTS TO THE SPECIFICATION**

Please replace paragraph [0013] with the following amended paragraph:

**[0013]** Figs. 2-6 are cross-sectional views of different examples of preferred embodiments of electrically conductive devices according to the present invention; and

Please replace paragraph [0014] with the following amended paragraph:

**[0014]** Fig. 7 is a cross-sectional view showing in more detail an example of a preferred embodiment of a current input device according to the present invention [[:]]  
;

Please add the following new paragraph after paragraph [0014]:

**[0014.1]** Fig. 8 is an enlarged fragmentary side view of a portion of Fig. 1;

Please add the following new paragraph after paragraph [0014.1]:

**[0014.2]** Fig. 9 is a cross-sectional view taken along the line A-A of Fig. 8; and

Please add the following new paragraph after paragraph [0014.2]:

**[0014.3]** Fig. 10 is an enlarged cross-sectional view of the upper region of Fig. 9, showing the connection between a tubular furnace casing and a current input device.

Please replace paragraph [0020] with the following amended paragraph:

**[0020]** Thus the furnace power supply, and therewith its temperature distribution, can be controlled in a very precise manner by appropriate placement of the current input devices 2-4 and current drainage devices 5, 6 and the application of an appropriate voltage thereacross, as will be understood by the person skilled in this art. The volume whose temperature it is desired to control in the tube-like furnace of Fig. 1 may be that part of the enclosed furnace volume situated between the current input device 2 and a respective current input device 3 or 4 or 5, and the current input device ~~3~~ and output devices ~~[[3]]~~ 5 and 6, respectively.

Please replace paragraph [0022] with the following amended paragraph:

**[0022]** With the intention of balancing this heat loss, the current input devices 2-4, placed in the vicinity of the region of the enclosed furnace volume whose temperature is to be controlled are provided with a waist 10-12 (see Figs. 2-4). In other words, there is provided on each such current input device 2-4 a waist region 10-12 whose cross-sectional area is much smaller than the cross-sectional area of the remainder of said current input device. As a result of the smaller cross-sectional area at the waist regions 10-12, the electrical resistance offered to the current through the devices 2-4 is greater in the ~~waists~~ waist regions 10-12 than in the remaining parts of respective devices 2-4. As current flows through the input devices 2-4, power is developed as a result of the electrical resistance of said devices and by the current that flows through the devices 2-4. This power development contributes to a heat surplus in each current input device 2-4, thereby causing the furnace casing

1 to be heated punctiformly at the contact surface between the input device 2-4 and the casing 1. By adjusting the cross-sectional area at the waist regions 10-12, the person skilled in this art will be able to balance this input of energy to the furnace casing 1 against the energy losses resulting from heat dissipation through the current input devices 2-4, and thereby achieve a zero net flow of thermal energy from the furnace to the surroundings through said input devices 2-4. This net contribution to heating of the enclosed furnace volume will therefore not influence the temperature distribution in the furnace. The waist is located close to the barrel surface of the tube so as to reduce the size of the surface of the input device located between the waist and the tube wall, this surface being cooled by the surroundings.

Please replace paragraph [0029] with the following amended paragraph:

**[0029]**        The ~~waists~~ waist regions 10-12 on the current input devices 2-4 shown in Figs. 2-4 are placed in close proximity to the temperature-controlled part of the enclosed furnace volume casing 1, as can be clearly seen from the figures.